

What is claimed:

1. A semiconductor package comprising

an integrated circuit die with a plurality die bond pads,

a printed wiring board,

with a plurality of package bond pads,

with a plurality of package pads,

with a plurality of conductive traces, or conductive planes, connecting selective
package bond pads to respective selected package pads,

a recess in the printed wiring board,

to attach the die,

to contain the plurality of die bond pads and plurality of package bond pads,

with the recess containing electrical circuitry,

with the recess formed by bending or deforming the printed wiring board,

a plurality of electrical connections between the plurality of die bond pads and the
plurality of package bond pads.
2. The package of claim 1, wherein the plurality of electrical connections between the die
bond pads and the package bond pads are made by wirebonds.
3. The package of claim 1, wherein the plurality of electrical connections between the die
bond pads and the package bond pads are made by TAB.

4. The package of claim 1, wherein the plurality of electrical connections between the die bond pads and the package bond pads are made by solder balls.
5. The package of claim 1, wherein the printed wiring board has a metal core, one or more build-up layers and a solder mask passivation layer, where each buildup layer comprises an organic dielectric layer with vias and a patterned metal layer.
6. The package of claim 5, wherein the circuitry of the printed wiring board is on one side, and the printed wiring board does not contain through vias or plated through holes (PTHs).
7. The package of claim 5, wherein the metal core is made from a material which has a TCE to match an electronic board on which the semiconductor package is mounted.
8. The package of claim 7, wherein the material is copper or aluminum.
9. The package of claim 5, wherein the metal core is made from a material with a TCE to match the integrated circuit die.
10. The package of claim 9, wherein the material is CuW, Mo, CuMo, copper clad Mo, Invar, and copper clad Invar.
11. The package of claim 5, wherein the metal core is made from a material with a TCE half way between the integrated circuit die and the electronic board on which the semiconductor package is mounted.
12. The package of claim 11, wherein the material is stainless steel.
13. The package of claim 1, wherein the plurality of package pads are arranged in an array, where the array need not be fully populated with package pads and particularly the center of the array is not populated with package pads.

14. The package of claim 13, wherein the pitch of the array, the distance from the center of one package pad to the center of an adjacent populated package pad is 0.5mm, 0.65mm, 0.8mm, 1.0mm and 1.27mm.
15. The package of claim 13, wherein there are a plurality of package solder balls attached to respective selected package pads.
16. The package of claim 13, wherein there are a plurality of package pins attached to respective selected package pads.
17. "new" The package of claim 1, wherein the plurality of package pads are arranged in one, two or more rows around the perimeter of the printed wiring board.
18. "new" The package of claim 17, wherein the pitch of the package pads, the distance from the center of one package pad to the center of an adjacent package pad is 0.5mm, 0.65mm, 0.8mm, 1.0mm and 1.27mm.